IN THE CLAIMS:

Please substitute the following claims for the pending claims of the same number.

1. (Previously Presented) A micromixer for mixing at least two reactants having penetrations for the supply of the reactants and/or the discharge of the product comprising: at least one mixing plate with microstructures that define mixer cells, each of said mixer cells having a feeding chamber which adjoins at least one group of digital channels which intermesh in a comb-like manner with the digital channels of a group from the adjoining feeding chambers to form a mixing zone; and a discharge plate arranged on the mixing plate, said discharge plate having an outlet port above each mixing zone, said outlet port extending perpendicularly to the digital channels, wherein each mixer cell has at least two mixing zones.

2. (Previously Presented) A micromixer as claimed in Claim 1, wherein the majority of the feeding chambers have parallel main channels that intermesh in a comb-like manner, with digital channels branching off of said main channels.

3. (Previously Presented) A micromixer as claimed in Claim 1, wherein the majority of the feeding chambers are surrounded on all sides in the plane of the plate by mixing zones.

4. (Previously Presented) A micromixer as claimed in Claim 1, wherein the feeding chambers are arranged according to the reactants in rows and/or columns in an alternating pattern.

5. (Previously Presented) A micromixer as claimed in Claim 3, wherein the feeding chambers have a rectangular outline.

6. (Previously Presented) A micromixer as claimed in Claim 3, wherein the feeding chambers have a triangular outline.

7. (Previously Presented) A micromixer as claimed in Claim 3, wherein that side of the mixing plate facing away from the mixer cells is structured and has two storage chambers for the reactants;

has parallel channels which lead away from the storage chambers and run beneath the feeding chambers, whereby the channels for one reactant intermesh in a comb-like manner with the channels for the other reactant;

and has penetrations leading from the channels to the feeding chambers.

8. (Previously Presented) A micromixer as claimed in Claim 3, wherein a first plate and below that a second plate are arranged below the mixing plate to form a storage chamber for the two reactants, and said storage chambers are connected via supply lines for the respective reactant to the corresponding feeding chambers, whereby the supply lines for the reactant in the lower storage chamber are hollow bodies which carry the reactant through the upper storage chamber.

9. (Previously Presented) A micromixer as claimed in Claim 3, wherein the micromixer includes an integrated heat exchanger.

10. (Previously Presented) A micromixer as claimed in Claim 9, wherein hollow bodies containing a heating medium or coolant are arranged on the discharge plate between the ports.

11. (Previously Presented) A micromixer as claimed in Claim 9, wherein a heating medium or coolant is passed through the discharge plate.

12. (Previously Presented) A micromixer as claimed in Claim 8, wherein a third chamber for a heating medium or coolant is arranged between the mixing plate and the two storage chambers for reactants, and both reactants are passed in hollow bodies through the third chamber en route to the feeding chambers of the mixing plate.

13. (Previously Presented) A micromixer array for mixing one or more reactants comprising two or more stacked micromixers as claimed in Claim 1.

14. (Previously Presented) A micromixer array as claimed in Claim 13, wherein the micromixers are fluidically connected in parallel.

15. (Previously Presented) A micromixer array as claimed in Claim 13, wherein the micromixers are fluidically connected in serial.

16. (Previously Presented) A micromixer array as claimed in Claim 15, wherein the micromixers for mixing three or more reactants are connected in serial, whereby the first micromixer is designed for mixing two reactants to produce a product, and at least one downstream micromixer is designed to mix the third reactant with the intermediate product.

17. (Previously Presented) A micromixer array as claimed in Claim 13, wherein there are one or more additional plates above, below and/or between adjoining micromixers to supply reactant, collect and/or distribute intermediate products and/or to discharge the product.